

35 6. A method for prolong life-span of a patient with prostate carcinoma which comprises introducing a nucleic acid molecule having sequence encoding a p27 protein into the carcinoma cell under conditions

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permitting expression of said gene so as to prolong the life-span of the patient with said prostate carcinoma.

- 5 7. The method of claim 6, wherein the nucleic acid molecule comprises a vector.
- 10 8. The method of claim 7, wherein the vector is an adenovirus vector, adenoassociated virus vector, Epstein-Barr virus vector, retrovirus vector or vaccinia virus vector.
- 15 9. A method for prolonging life-span of a patient with prostate carcinoma which comprises introducing an effective amount of p27 protein into the carcinoma cell so as to thereby prolong the life-span of the patient with said prostate carcinoma.
- 20 10. A method for prolonging life-span of a patient with prostate carcinoma which comprises introducing an effective amount of a substance capable of stabilizing the p27 protein into the carcinoma cell so as to thereby prolong the life-span of the patient with said prostate carcinoma.
- 25 11. A composition for prolonging life-span of a patient with prostate carcinoma which comprises an effective amount of a nucleic acid molecule having sequence encoding a p27 protein and a suitable carrier.
- 30 12. A composition for prolonging life-span of a patient with prostate carcinoma which comprises an effective amount of the p27 protein and a suitable carrier.
- 35 13. A composition for prolonging life-span of a patient with prostate carcinoma which comprises an effective amount a substance capable of stabilizing the p27 protein and a suitable carrier.

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14. A method for determining the rate of proliferation of a prostate cancer comprising:
- (a) obtaining a sample of the prostate cancer; and
 - (b) detecting the presence of p21 protein in the prostate cancer, the presence of p21 indicating that the prostate cancer will have a high proliferation rate.
15. A method for determining the rate of proliferation of a prostate cancer comprising:
- (a) obtaining a sample of the prostate cancer; and
 - (b) detecting the mdm2 expression in the prostate cancer, the overexpression of mdm2 indicating that the prostate cancer will have high proliferation rate.
16. A method for determining whether a prostate cancer would be metastatic comprising:
- (a) obtaining a sample of the prostate cancer; and
 - (b) detecting the level of cyclin D1 expression in the prostate cancer, the overexpression of cyclin D1 indicating that the prostate cancer will be metastatic.
17. The method of claim 16, wherein the prostate cancer is metastatic to bone.
18. A method for determining the tumor recurrence in prostate cancer comprising:
- (a) obtaining a sample of the prostate cancer; and
 - (b) detecting the expression of the cyclin-dependent kinase inhibitor p16 in the prostate cancer, the overexpression of p16 indicating that the prostate cancer will have high tumor recurrence.
19. A method of treating prostate cancer in a subject comprising administering to the subject a therapeutically effective amount of anti-Her-2/neu

antibody to the subject.

20. The method of claim 19, wherein the prostate cancer is androgen-dependent.
- 5 21. The method of claim 19 further comprising administering to the subject an antitumor chemotherapeutic agent.
- 10 22. The method of claim 21, wherein the antitumor chemotherapeutic agent is selected from the group consisting of paclitaxel, doxorubicin, cis-platin, cyclophosphamide, etoposide, vinorelbine, vinblastin, tamoxifen, colchicin, and 2-methoxyestradiol.
- 15 23. The method of claim 19, wherein the prostate cancer is androgen-dependent.
- 20 24. The method of claim 19, wherein the prostate cancer is androgen-independent.
- 25 25. A method of diagnosing prostate cancer in a subject which comprises:
- 25 a) measuring the amount of Her-2/neu expressed by a prostate sample from the subject; and
- 25 b) comparing the amount of Her-2/neu expressed in step (a) with the amount of Her-2/neu expressed by a normal prostate, wherein a higher amount of Her-2/neu expressed in step (a) indicates prostate cancer.
- 30 26. A method of diagnosing prostate cancer in a subject which comprises:
- 35 a) measuring the amount of Her-2/neu expressed by a prostate sample from the subject; and b) comparing the amount of Her-2/neu expressed in step (a) with the amount of Her-2/neu expressed by known cancer cell lines, wherein a higher amount of Her-2/neu expressed in step (a) than in the known cancer cell lines indicates prostate cancer.